

What is claimed is:

1. An end closure adapted for interconnection to a container, comprising:
 - a central panel having a product side and a public side and a peripheral curl adapted for interconnection to the container;
 - 5 a tear panel positioned in the central panel which is defined by a frangible primary score and a secondary score, and a non-frangible hinge portion, said tear panel originating with a score origination loop having a radius of curvature of at least about 0.050 inches;
 - a stay on tab hingedly interconnected to said public side of said central panel comprising a nose portion on one end and a lift end on an opposing end, said nose portion 10 extending over a portion of said tear panel;
 - a reinforcing cent bead positioned within said central panel and having a first leg and a second leg positioned proximate to said rivet, opposite said tear panel, said first and second legs having a length no greater than about 0.125 inches; and
 - 15 a central webbing of said stay on tab positioned between said nose portion and said lift end, said webbing having a hinge region and a tab interconnected to said rivet, and further comprising a horseshoe shaped void region with a first leg and a second leg, said first leg extending a greater distance toward said nose than said second leg, wherein when said nose of said stay on tab is forced downward, a force on said tear panel is oriented away from said score origination loop.
2. The end closure of Claim 1, wherein said second leg of said horse-shoe shaped void region is at least about .035 inches longer than said first leg.

3. The end closure of Claim 1, wherein said first leg and said second leg of said cent bead are offset from said score tear panel at least about .125 inches.
4. The end closure of Claim 1, wherein said frangible primary score has a residual material thickness of between about 0.0035 - 0.0042 inches.
5. The end closure of Claim 1, wherein said score origination loop has a radius of about 0.057 inches.
6. The end closure of Claim 1, wherein said force on said tear panel is oriented at an angle which is non-parallel to a longitudinal axis of said pull tab.
7. The end closure of Claim 1, wherein said first leg and said second leg of said cent bead are off set from a center-line of said rivet a distance of about 0.90 inches.
8. The end closure of Claim 1, wherein the opening force required to shear said frangible primary score on said tear panel to open said end closure is no greater than about 3.5 lbs.
9. The end closure of Claim 1, wherein said frangible primary and secondary score terminate with a tail loop which is oriented outwardly towards said peripheral curl.

10. A metallic end closure adapted for interconnection to a container, comprising:
a central panel having a product side and a public side and a peripheral curl adapted
for interconnection to a neck of the container;
a tear panel positioned in the central panel which is defined by at least a frangible
5 primary score, originating with a score origination loop having a radius of curvature of at
least about 0.050 inches and terminating with a tail loop;
a stay on tab hingedly interconnected to said public side of said central panel which
includes a nose portion on one end and a lift end on an opposing end, said nose portion
extending over a portion of said tear panel;
10 a reinforcing cent bead integrally interconnected to said central panel and having a
first leg and a second leg positioned proximate to said rivet, opposite said tear panel, said
first and second legs of said reinforcing bead having a length no greater than about 0.125
inches; and
a central webbing of said stay on tab positioned between said nose portion and said
15 lift end, said webbing having a hinge region and a tab interconnected to said rivet, and further
comprising a horseshoe shaped void region with a first leg and a second leg, wherein when
said nose of said stay-on tab is forced downward, a force on said tear panel is oriented away
from said score loop.

11. The end closure of Claim 10, wherein said second leg of said horse shoe
shaped void region has a greater length than said first leg.

12. The end closure of Claim 10, wherein said tear panel further comprises a frangible secondary score.

13. The end closure of Claim 10, wherein said frangible primary score has a residual material thickness of between about 0.0035 - 0.0042 inches.

14. The end closure of Claim 10, wherein said opening force is oriented in a non-parallel direction to a longitudinal axis of said stay on tab.

15. The end closure of Claim 10, wherein said first and second legs of said cent bead are at least about 0.090 inches from a central axis of said rivet.

16. A metallic end closure adapted for interconnection to a container, comprising:
a central panel having a product side and a public side and a peripheral curl adapted
for interconnection to a neck of the container;
a tear panel positioned in the central panel which is defined by at least a frangible
5 primary score and a non-frangible hinge portion, said tear panel originating with a score
origination loop and terminating with a tail loop;
a stay on tab hingedly interconnected to said public side of said central panel which
includes a nose portion on one end and a lift end on an opposing end, said nose portion
extending over a portion of said tear panel;
10 a reinforcing cent bead integrally interconnected to said central panel and having a
first leg and a second leg positioned proximate to said rivet, opposite said tear panel, said
first and second legs having a length no greater than about 0.125 inches; and
a central webbing of said stay on tab positioned between said nose portion and said
lift end, said webbing having a hinge region and a tab interconnected to said rivet, and further
15 comprising a horseshoe shaped void region with a first leg and a second leg, said second leg
extending a greater distance toward said nose than said first leg, wherein when said nose is
forced downward, a force on said tear panel is oriented away from said score origination loop
to substantially prevent detachment of said tear panel from said central panel.

17. The end closure of Claim 16, wherein said score origination loop has a radius
of curvature of at least about 0.050 inches.

18. The end closure of Claim 16, wherein said first and second legs of said reinforcing cent bead are no closer than 0.090 inches from a center line of said rivet.

19. The end closure of Claim 16, wherein said first leg of said horse shoe shaped void region is at least about 0.035 inches longer than said first leg.

20. The end closure of Claim 16, wherein said frangible primary score has a residual material thickness of at least about 0.0035 inches.

21. The end closure of Claim 16, wherein said tail loop is oriented outwardly toward said peripheral curl.